

SCHEDULING ACADEMIC PROCESSION IN
UMP CONVOCATION CEREMONY USING
HILL CLIMBING

NAZREEN UMEERA BINTI DZULKIFLI

Bachelor Degree of Computer Science (Software
Engineering)

UNIVERSITI MALAYSIA PAHANG



SUPERVISOR'S DECLARATION

I hereby declare that I have checked this thesis and, in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Computer Science in Software Engineering

(Supervisor's Signature)

Full Name : DR. MOHD NIZAM BIN MOHMAD KAHAR

Position : SENIOR LECTURER

Date : 09 JANUARY 2019



STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

(Student's Signature)

Full Name : NAZREEN UMEERA BINTI DZULKIFLI

ID Number : CB15078

Date : 09 JANUARY 2019

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ABSTRAK

Perarakan akademik sudah menjadi satu acara wajib untuk Majlis Graduasi Universiti Malaysia Pahang (UMP). Pensyarah daripada semua fakulti akan terlibat untuk acara ini. Namun, tidak semua pensyarah akan terlibat kerana kekangan jubah yang tidak mencukupi. Thesis ini akan membandingkan tiga teknik yang boleh diguna pakai untuk penjadualan perarakan akademik di Majlis Graduasi UMP. Sebuah prototaip penjadualan yang menggunakan algoritma terpilih akan dibina. Thesis ini juga akan memberikan proses pelaksanaan prototaip tersebut menggunakan algoritma terpilih. Hasil yang dikeluarkan daripada prototaip tersebut akan dibincangkan didalam thesis ini.

ABSTRACT

Academic assembly is one of the compulsory event in UMP Convocation Ceremony. Lecturers from all faculties in UMP will involve in the assembly. Since, there is limitation number of gown or hood, not all lecturers will be involved in the assembly. This thesis will differentiate three techniques that can be applied for scheduling Academic assembly in UMP Convocation Ceremony. A prototype will be develop based on the proposed algorithm. This thesis also provides the implementation process of the prototype and the proposed algorithm. The result that produced by the prototype will be compared with the old schedule.

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LIST OF SYMBOLS

LIST OF ABBREVIATIONS

BPA	Academic Administrator Division
UMP	University Malaysia Pahang
UPKP	Unit Penerimaan & Kewangan Pelajar

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

University Malaysia Pahang (UMP) Convocation Ceremony is an event purposely to celebrate student academic achievement. The ceremony requires the student to wear formal gown. This ceremony held for three days which is Saturday, Sunday and Monday at UMP Sports Complex, Gambang campus. The certificates and transcripts can be collected from BPA, Gambang campus / Academic Administrator Division, Pekan campus after convocation ceremony ended. Letter of consent from owner of certificates and transcripts and copy of representative identity card is needed if the owner unable to take the certificates and transcripts by themselves.

There are five sessions in UMP Convocation Ceremony. Each graduate has one invitation card for their guests attend the ceremony. Date, time, and number of guests become the constrains for each session. As example, the first session for 12th UMP Convocation Ceremony is held from 8a.m until 12p.m on 18th November 2017. The number of guests for each graduate that involves in the first session is three guests.

12th UMP Convocation Ceremony held on 18th, 19th and 20th November 2017. UMP Expoconvo 2017 held on 16th until 20th November 2017. The rehearsal of 12th UMP Convocation Ceremony is held on 8. 30a.m, 17th November 2017 which require all the graduates to join.

There also a compulsory event in UMP Convocation Ceremony which is Academic Procession. This procession involved lecturers from all faculties in UMP. The capacity for lecturers involved in the procession for each session is determine by BPA. BPA also will provide the capacity for each faculty needed for the Academic Procession.

Each faculty will provide a list of lecturer name that will be involved in the Academic Procession based on the provided capacity.

1.2 PROBLEM STATEMENT

First problem for scheduling academic procession is there are limited number of convocation gown or hood for academic procession. There are only 353 gown or hood available for academic procession. For each session, the number of lecturers involved in academic procession would be different. As example, the first session requires 150 lecturers to involve in the procession while only 50 lecturers will be involved in second session. Hence, the lecturers will be scheduling to attend at least 2 out of 5 sessions or the maximum of 3 times out of 5 times. Moreover, there a lot of constraints in order scheduling the lecturers. For example, there must be at least one session gap between the involved sessions for each lecturer. This make it difficult to produce a solution for scheduling the gown or hood that satisfy all the constraints.

Second problem that happen during the scheduling academic procession is the lecturers does not involve in the procession but had register their name as attending. For an example, in the first session, the number of lecturer's register as attend is 150. The seats in the UMP Sports Complex, Gambang campus supposedly full but there are 10 empty seats. Why this happen during the academic assembly? It is because there is no centralized data to make sure there is no one can leave the UMP Convocation Ceremony until the ceremony is end. In addition, the lecturers going in, going out and change seat freely as there is no specific data to view the detail of involved lecturers. So, the approach for scheduling Academic Procession in UMP Convocation Ceremony would provide an optimum solution to make a reasonable schedule for all involved lecturers.

Based on two problem statements, the selected approach for scheduling the Academic Procession in UMP Convocation Ceremony will become a solution for the lecturers. The lecturer can have an enhance schedule for the Academic Procession in UMP Convocation Ceremony.

1.3 RESEARCH QUESTION

The research question that being the guidelines for this thesis is:

- I. Can proposed algorithm produce an improvement schedule for the lecturers who involved in Academic Procession during Convocation Ceremony?

1.4 GOAL /AIM AND OBJECTIVE

The objectives of this thesis are:

- I. To study which algorithm is suitable to produce an optimum schedule for lecturer that attend the academic assembly.
- II. To implement proposed algorithm for Scheduling Academic Assembly in UMP Convocation Ceremony.
- III. To evaluate the effectiveness of proposed algorithm in solving Scheduling Academic Assembly in UMP Convocation Ceremony.

1.5 SCOPE

The scopes of this thesis are:

- I. The study focusses on real-world target datasets which is number of gown or hood and list name of involved lecturers in Academic Procession during 12th UMP Convocation Ceremony.
- II. The investigation focusses on three algorithms that might suitable for scheduling Academic Procession on UMP Convocation Ceremony.
- III. Using Java language to develop the prototype for scheduling.
- IV. The proposed algorithm is Hill Climbing.

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